

CASE REPORTS

Intraperitoneal Oil Granuloma

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SEVERAL DECADES AGO there were numerous papers advocating the use of mineral and vegetable oil within the abdominal cavity to prevent the formation of peritoneal adhesions. In 1908 Blake¹ indicated that olive oil had a tendency to prevent adhesions and recommended its use in certain cases. Claypool² and Wilkie⁶ not only supported its use for the prevention of adhesions but also felt that the oil promoted subsequent drainage and peristalsis. Subsequent reports, however, indicated poor late results of this practice. Marshall and Farse³ reported operating on a patient who some 30 years previously had had a quantity of sterile liquid paraffin put into the abdominal cavity to prevent the adhesion of loops of intestines to the tubes in a case of salpingitis. Norris and Dawson⁴ reported two cases of peritoneal reaction to liquid petroleum. Both reports described typical granulomatous foreign body reaction of the peritoneal surfaces.

Descriptions of the tissue reaction to mineral substances such as talc and beryllium oxide have appeared in recent medical literature, but because contamination of the peritoneal cavity with mineral or vegetable oils is now fairly rare, little has been said of it in the past few years.

REPORT OF A CASE

A 26-year-old man, a laboratory technician, awoke in the middle of the night with generalized cramping abdominal pain and vomiting. By morning the pain had become steady and was localized in the lower abdomen. The patient had had pneumonia repeatedly in early life, beginning at one year of age. At age 12, he was examined at an institution for tuberculous patients and was thought to have congenital lung cysts on the right. Attempts were made to keep the lung collapsed with pneumothorax, and this was successful until the space was lost. A phrenic crush was then done and mineral oil was placed in the right lateral chest for permanent collapse of the lung. The patient had been fairly well since that time. He said that he had had no previous

abdominal discomfort or indigestion. On the day the abdominal pain began, there was no fever.

Upon physical examination some tenderness was noted in the lower abdomen, but it did not seem severe or localized. There were no masses and peristalsis was very active. A hard, fixed, nontender mass was felt in the cul de sac on rectal palpation. No abnormality was observed on sigmoidoscopic examination. X-ray films of the chest showed no change from those taken previously. An abdominal film revealed many areas of calcification of various sizes and density, distributed irregularly throughout the abdomen (Figure 1). The distribution of gas in the bowel was normal. Results of examination of the blood and urine were within normal limits.

At laparotomy, it was found that the visceral and parietal surfaces of the peritoneum were studded with white nodules, varying in size from 4 cm. to a few millimeters, some pedunculated and some

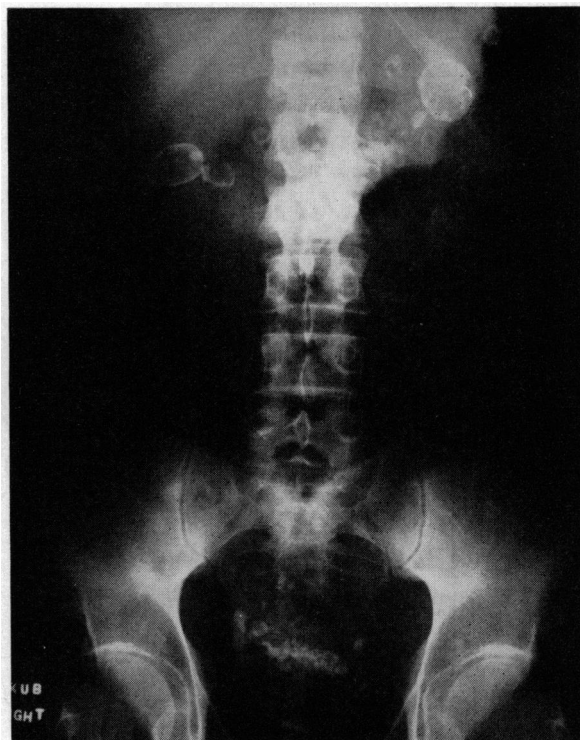


Figure 1.—Roentgenographic appearance of calcified intraperitoneal oil granulomas.

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plaque-like on the serosal surfaces. There were so many adhesions that the abdominal cavity and pelvis could not be thoroughly explored and the cecum was buried in adhesions so dense that the appendix could not be identified. There was no evidence of intestinal obstruction. The gross appearance of the abdomen was that of extensive carcinomatosis. Since the process was so widespread, it was obvious that nothing definitive could be done, and therefore, two of the pedunculated nodules were removed for biopsy.

The microscopic report was as follows: "This is a lipidic granuloma, having a structure like that of the so-called paraffinomas. The clear spaces represent oil droplets, from which the oil has been removed by solvents. Each droplet is surrounded by a thin layer of foreign body giant cells. It seems reasonable to relate the presence of this oil to the earlier oleothorax. The distribution suggests that the oil reached the peritoneal cavity directly rather than by distribution in the lymphatic system."

The patient had no abdominal symptoms in the next several years of observation. Apparently, unless obstructive phenomena develop through pressure or adhesions, these granulomatous masses do not adversely influence the prognosis.

SUMMARY

Foreign material when deposited in the tissue, either from exogenous or endogenous sources, may stimulate a granulomatous response which is proliferative and causes nodule formation. When this reaction occurs on the surfaces such as the peritoneum, it is often grossly indistinguishable from widespread carcinoma or tuberculosis. The case presented is one in which, apparently, oil had been inadvertently introduced into the abdominal cavity. The ensuing typical reaction produced a confusing gross appearance resembling extensive carcinomatosis.

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